Steplib Support

This section covers the following topics:

- LIST XREF Main Menu
- Using a Structure Documented in Predict
- Using the Runtime Structure
- Working Without any Structure
- Displaying the Current Environment
- Steplib Support in Batch Mode

Predict offers you three possible methods of evaluating XRef data listed below. Select the method you require in the LIST XREF menu before you call a function. This option is valid for the duration of your session or until you select another option in the LIST XREF menu.

- **The Library Structure Documented in Predict**
  Enter a valid library structure for parameter Structure. See Using a Structure Documented in Predict
  The structure to be used is taken from the link list Library structure > System.
- **The Runtime Structure**
  Enter *R for parameter Structure.
- **Without any Structure**
  The LIST XREF functions evaluate XRef data as before. Only objects in the current library are displayed. See Working without any Structure.

Note:
If XRef data of programs contain library information about used data areas or copy codes, this information is evaluated regardless of the value specified for parameter Structure.

LIST XREF Main Menu

The LIST XREF Main Menu is invoked by entering LIST XREF after the Natural NEXT prompt. The command can be abbreviated to L X (separated by a blank). Alternatively, the XRef menu can be invoked in the Natural Development Facilities menu.

```
   13:20:12            *****  P R E D I C T  4.2.2  *****          2002-07-31
   Library: SYSDIC              -   XRef Menu   -         DBnr:   180 Fnr:    64


   Code  Object                         Code  Object
   ----  ------------------------------ ----  ------------------------------
    I    Invoked programs                S    Retained sets
    D    Data areas and variables        R    Processing rules
    V    Views and fields                F    Natural resources
    C    Copycode                        X    Report programs with xref data
    E    Error numbers                   A    Verify application
    P    Printers                        N    Create new sets via selection
    W    Work files                      O    Operate on sets
   ----  ------------------------------ ----  ------------------------------

        Code .........:   (  ? Help  . Terminate )
        Structure ...*:
        System .......:


 Command ===>
 Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
       Invp  GDAV  Quit  Sets  Rule  Copy  XRef  View  OSet  SPfk  Main  Exit
```

Code

Enter one of the function codes offered in the menu. Before a function is called, a structure can be entered.

Structure

The structure to be used to evaluate the XRef data. Enter the ID of a library structure, or

blank No library structure. Only objects in the current library will be evaluated.

*R The runtime structure will be used.

* The following selection window appears:

```
 E D I C T  4.2.2  *****                2002-07-31
   XRef Menu    -          DBnr:   180 Fnr:    54


        +-------------------------------------+
        !     *** without structure ***       !
 ------ !     *** run time structure ***       !
        !     LS-NEWDICLX                      !
        !     LS-PDLX                          !
        !     PD-COB                           !
        !                                     !
```

In this window you can specify that

- no library structure is to be used for evaluating XRef data
- the runtime structure is to be used.
- a library structure defined in Predict is to be used. A list of all library structures in Predict where the system which documents the current library is contained in the link list Library Structure > System is displayed.
See **Library Structure** in the Predefined Object Types in Predict documentation.

Notes:
The first two options are always available. In order to select a library structure, at least two objects must be present:

- a system object that documents the current library
- a library structure with a link list that contains this system object.

If you set the option Save set to Y, the objects from different libraries will be saved in different sets.

If XRef data of programs contain library information about data areas or copy codes used, this information is evaluated regardless of the value specified for parameter Structure.

See examples given in Effects of Steplib Support.

System

This field shows the ID of the system object in Predict that documents the library. This value is taken from the implementation pointer of the system object. The system with the most detailed implementation pointer is used, see table.

	LIBRARY	FNR	DBNR
1	x	x	x
2	x	x	
3	x		

Example: An implementation pointer consisting of Library/Fnr/DBnr is used before a pointer consisting of Library/Fnr only.

Using a Structure Documented in Predict

The link list Library structure-System of the library structure specified must contain the system displayed in field System.

The link list Library structure-System is evaluated. Each system in the list is checked as follows:

- If no information is present in the implementation pointer of the system, the system is ignored
- If the implementation pointer is incomplete, the system searches for possible XRef data. This XRef data is used to supply the missing Fnr and DBnr information in the implementation pointer.
- If no XRef data is found, the values of the current FUSER file are used to supply the missing DBnr and Fnr information in the implementation pointer.
- If the current library is a Natural library, the structure is appended with --> *STEPLIB <--.

See the section **Library Structure** in the Predefined Object Types in Predict documentation.

Using the Runtime Structure

The following screen appears if you enter *R for parameter Structure.

```
   13:23:18             *****  P R E D I C T  4.2.2  *****            2002-07-31
   Library: SYSDIC            -   XRef Menu   -          DBnr:   180 Fnr:    64


   Structure ...........: *** run time structure ***


              System Id                         Library  DBnr   Fnr
              -------------------------------- -------- ----- -----
              V4210                             V4210    180   64
                                                V4210LX  180   64
                                                V342EN   180   64
                                                SYSTEM   180   102
                                                SYSLIBS  180   102
              --> *STEPLIB <--                  SYSTEM   180   64
```

Working Without any Structure

If you do not specify any library structure or runtime structure, only objects in the current library will be evaluated.

```
   13:25:27             *****  P R E D I C T  4.2.2  *****            2002-07-31
   Library: SYSDIC            -   XRef Menu   -          DBnr:   180 Fnr:    64


   Structure ...........:


              System Id                         Library  DBnr   Fnr
              -------------------------------- -------- ----- -----
                                                SYSDIC   180   64
```

Displaying the Current Environment

Using the command INFO you can display at any time during your LIST XREF session all libraries that will be evaluated by LIST XREF functions. The current library is marked with an arrow. See example below.

```
   13:28:05             *****  P R E D I C T  4.2.2  *****            2002-07-31
   Library: SYSDIC            -   XRef Menu   -          DBnr:   180 Fnr:    64


   Structure ...........: SYSDIC


              System Id                         Library  DBnr   Fnr
              -------------------------------- -------- ----- -----
         -->                                    SYSDIC   180   64
              V4210BE                           V4210BE  180   64
              --> *STEPLIB <--                  SYSTEM   180   64
```

Steplib Support in Batch Mode

In batch mode, the command STRUCTURE is used to specify which library structure is to be used.

- **STRUCTURE <structure-name>**

With this command you can specify which library structure is to be used for evaluating XRef data.

- **STRUCTURE *R**

This command specifies that the runtime structure is to be used for evaluating XRef data.

- **No Structure specified**

If you do not specify any structure, LIST XREF functions work as in earlier versions of Predict.